Program Success Metrics

John Higbee
DAU
19 Jan 2006

Purpose

- **Program Success Metrics (PSM) Synopsis**
- **On-Line Tour of the Army's PSM Application**
- **PSM's Status/"Road Ahead"**

Program Success Metrics Synopsis

- **Developed in Response to Request from ASA(ALT) to President, DAU in early 2002**
- **PSM Framework Presented to ASA(ALT) – July 2002**
- **Pilot Implementation – January to June 2003**
- **ASA(ALT) Decides to Implement Army-wide – Aug 2003**
- **Web-Hosted PSM Application Fielded – January 2004**
- **April 2005:**
  - **Majority of Army ACAT I/II Programs Reporting under PSM**
    - **Two Previous Army Program Reporting Systems (MAPR and MAR) Retired in Favor of PSM**
    - **Briefings in Progress / Directed with ASN(RDA), USD(AT&L), and AF Staffs**

Starting Point

- **Tasking From ASA(ALT) Claude Bolton (March 2002)**
  - **Despite Using All the Metrics Commonly Employed to Measure Cost, Schedule, Performance and Program Risk, There are Still Too Many Surprises (Poorly Performing /Failing Programs) Being Briefed “Real Time” to Army Senior Leadership**
- **DAU (with Industry Representatives) was Asked to:**
  - **Identify a Comprehensive Method to Better Determine the Probability of Program Success**
  - **Recommend a Concise “Program Success” Briefing Format for Use by Army Leadership**

PSM Tenets

- **Program Success: The Delivery of Agreed-Upon Warfighting Capability within Allocated Resources**
- **Probability of Program Success Cannot be Determined by Use of Traditional Internal (e.g. Cost Schedule and Performance) Factors Alone**
  - **Complete Determination Requires Holistic Combination of Internal Factors with Selected External Factors (i.e. Fit in the Capability Vision, and Advocacy)**
- **The Five Selected "Level 1 Factors" (Requirements, Resources, Execution, Fit in the Capability Vision, and Advocacy) Apply to All Programs, Across all Phases of the Acquisition Life Cycle**
- **Program Success Probability is Determined by**
  - **Evaluation of the Program Against Selected "Level 2 Metrics" for Each Level 1 Factor**
  - **"Roll Up" of Subordinate Level 2 Metrics Determine Each Level 1 Factor Contribution**
  - **"Roll Up" of the Five Level 1 Metrics Determine a Program's Overall Success Probability**

Briefing Premise

- **Significant Challenge – Develop a Briefing Format That**
  - **Conveyed Program Assessment Process Results Concisely/ Effectively**
  - **Was Consistent Across Army Acquisition**

- **Selected Briefing Format:**
  - **Uses A Summary Display**
    - **Organized Like a Work Breakdown Structure**
      - **Program Success (Level 0); Factors (Level 1); Metrics (Level 2)**
  - **Relies On Information Keyed With Colors And Symbols, Rather Than Dense Word/Number Slides**
    - **Easier To Absorb**
  - **Minimizes Number of Slides**
    - **More Efficient Use Of Leadership's Time – Don't "Bury in Data"!**

PROGRAM SUCCESS PROBABILITY SUMMARY

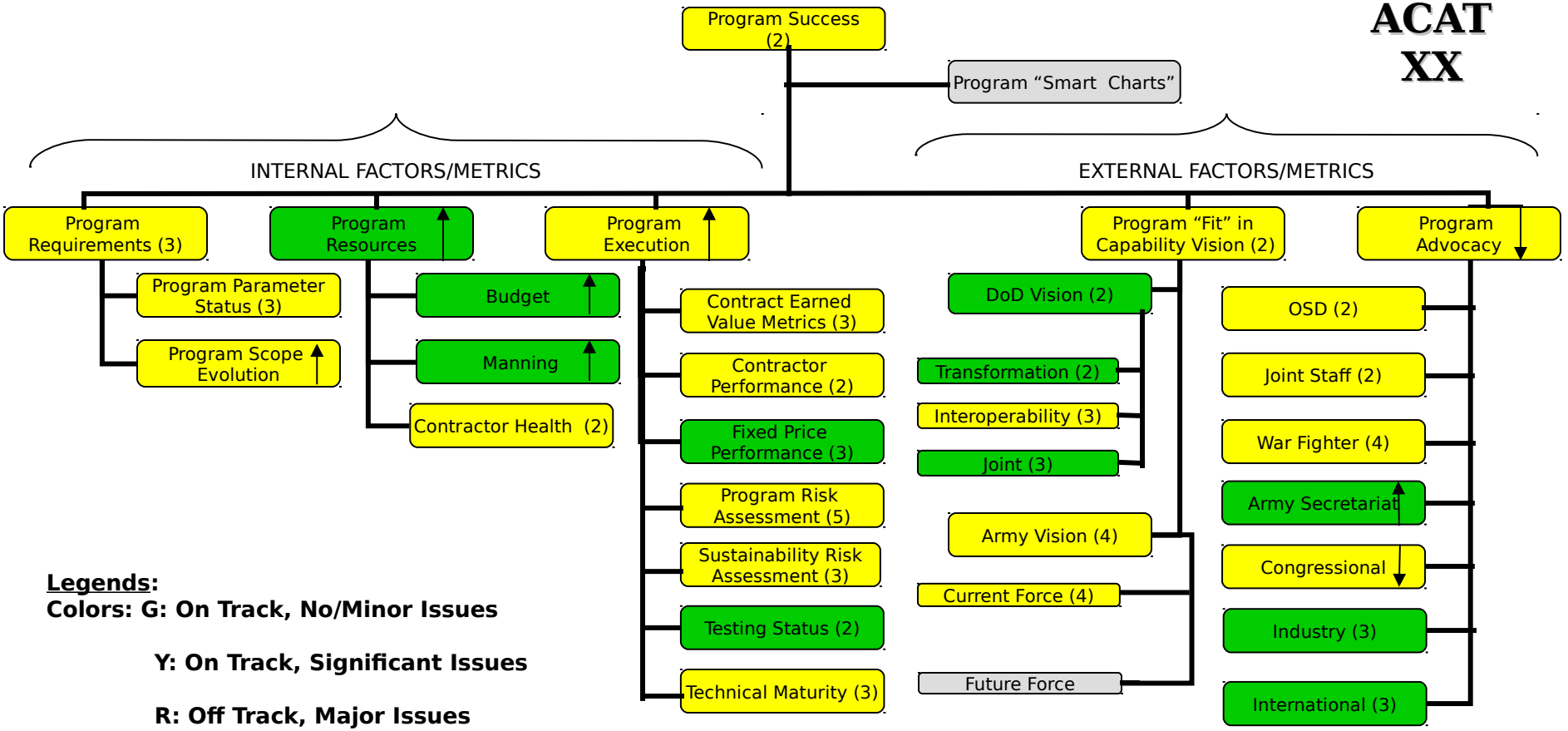
PEO XXX

COL, PM

Date of Review: dd mmm

Program Acronym

ACAT XX



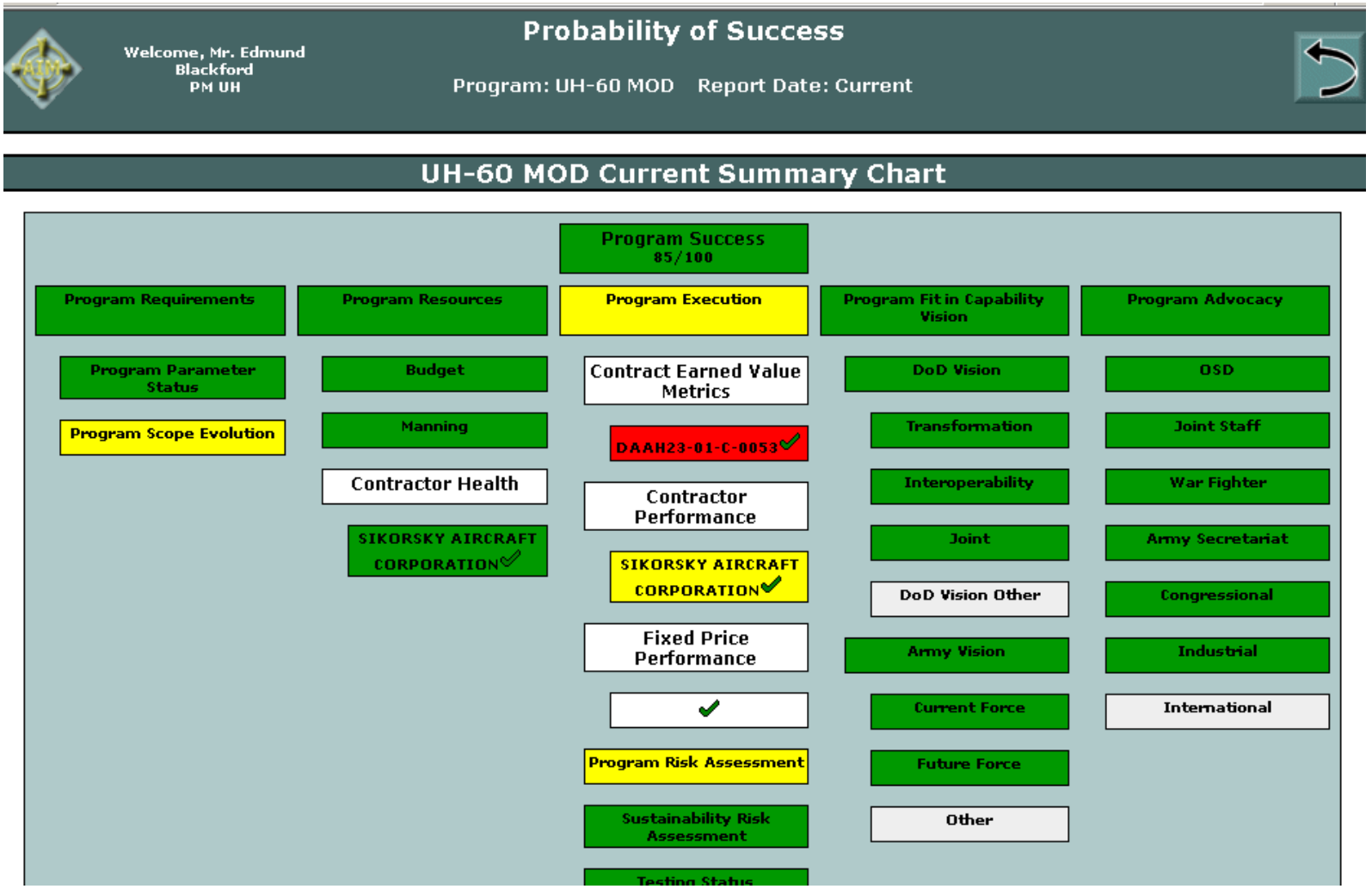
Legends:
Colors: G: On Track, No/Minor Issues

Y: On Track, Significant Issues

R: Off Track, Major Issues
Gray: Not Rated/Not Applicable
Trends: Up Arrow: Situation Improving
(number): Situation Stable (for # Reporting Periods)
Down Arrow: Situation Deteriorating

Program Life Cycle Phase: _____

PSM Summary Report



PEO XXX

REQUIREMENTS - PROGRAM PARAMETER STATUS

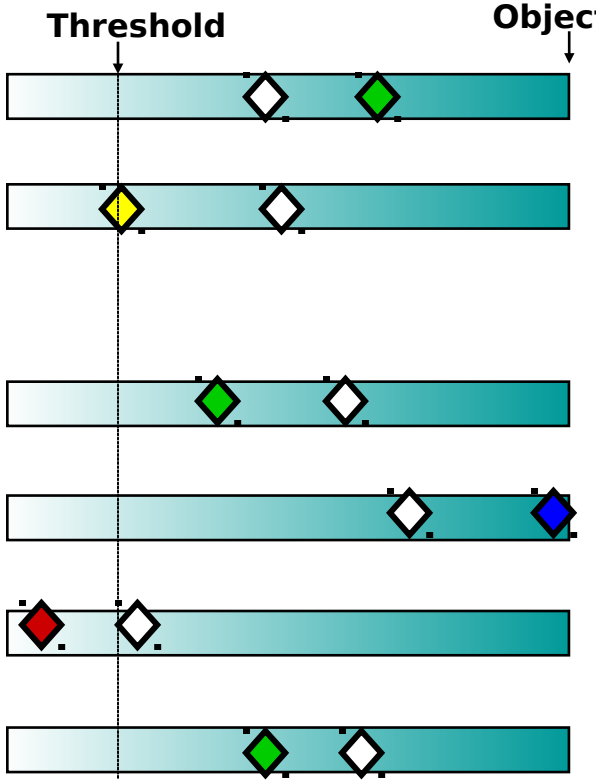
Program Acronym

ACAT XX

COL, PM

Date of Review: dd mmm yy

(EXAMPLES)



Position diamond along bar to best show where each item is in terms of its threshold - objective range.

Combat Capability

C4I Interoperability (Strategic, Theater, Force Coord.,Force Control, Fire Control)

Cost

Manning (Non-KPP)

Sustained Speed

Endurance

Status as of Last Brie (mm/yy – e.g. “01/03”)

Comments:

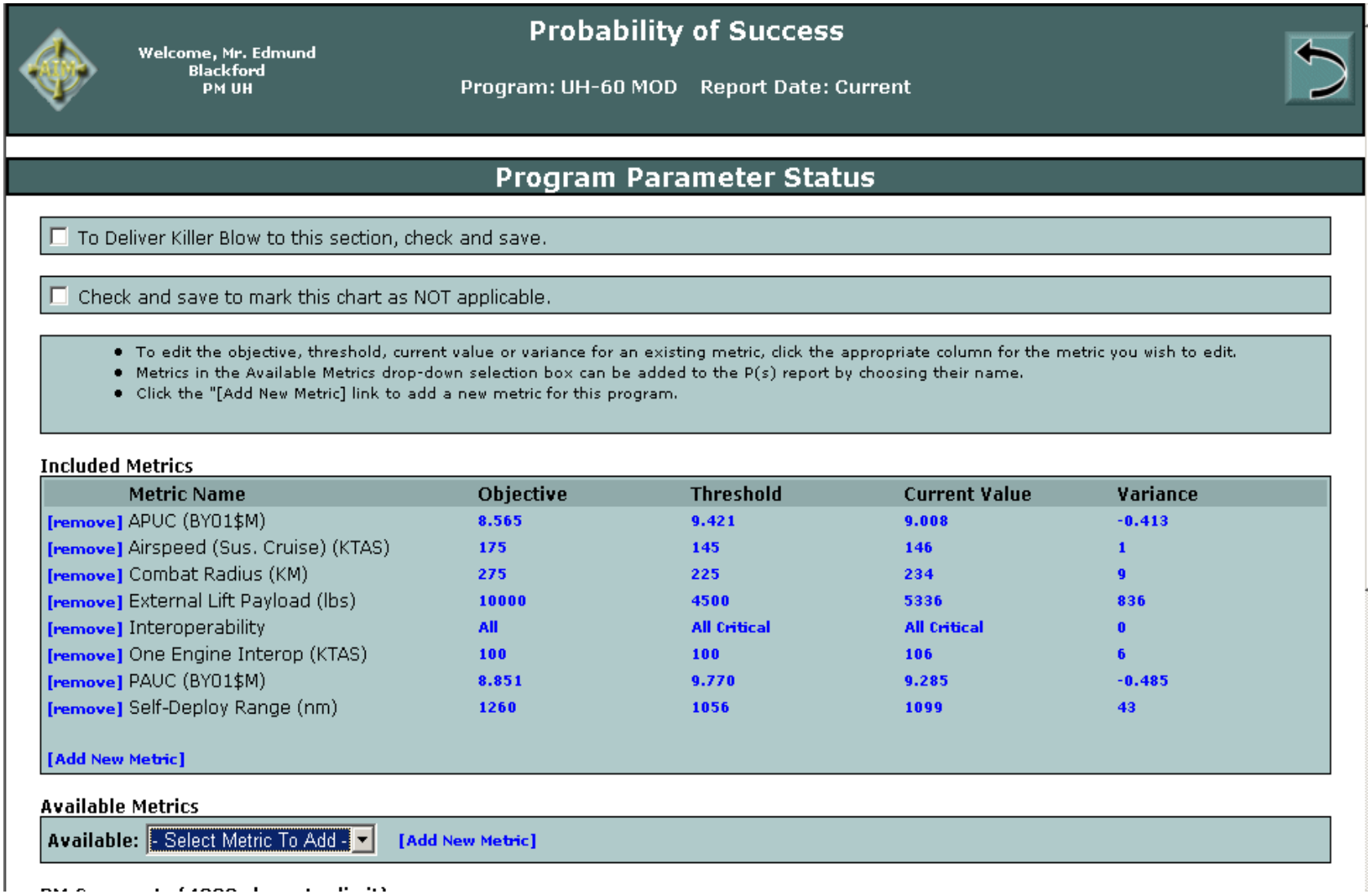
Historical

Y (3)

Predictive

Y

PSM Program Parameter Status



Welcome, Mr. Edmund Blackford
PM UH

Probability of Success

Program: UH-60 MOD Report Date: Current

Program Parameter Status

☐ To Deliver Killer Blow to this section, check and save.

☐ Check and save to mark this chart as NOT applicable.

- To edit the objective, threshold, current value or variance for an existing metric, click the appropriate column for the metric you wish to edit.
- Metrics in the Available Metrics drop-down selection box can be added to the P(s) report by choosing their name.
- Click the "[Add New Metric] link to add a new metric for this program.

Included Metrics

Metric Name	Objective	Threshold	Current Value	Variance
[remove] APUC (BY01$M)	8.565	9.421	9.008	-0.413
[remove] Airspeed (Sus. Cruise) (KTAS)	175	145	146	1
[remove] Combat Radius (KM)	275	225	234	9
[remove] External Lift Payload (lbs)	10000	4500	5336	836
[remove] Interoperability	All	All Critical	All Critical	0
[remove] One Engine Interop (KTAS)	100	100	106	6
[remove] PAUC (BY01$M)	8.851	9.770	9.285	-0.485
[remove] Self-Deploy Range (nm)	1260	1056	1099	43

[Add New Metric]

Available Metrics

Available: - Select Metric To Add - [Add New Metric]

PEO XXX

RESOURCES – CONTRACTOR HEALTH

Program Acronym

COL, PM

Date of Review: dd mmm yy

ACAT XX

- **Corporate Indicators**
  - **Company/Group Metrics**
    - **Current Stock P/E Ratio**
    - **Last Stock Dividends Declared/Passed**
    - **Industrial Base Status (Only Player? One of __ Viable Competitors?)**
      - **Market Share in Program Area, and Trend (over last Five Years)**
    - **Significant Events (Mergers/Acquisitions/ "Distractors")**
- **Program Indicators**
  - **Program-Specific Metrics**
    - **"Program Fit" in Company/Group**
    - **Program ROI (if available)**
    - **Key Players, Phone Numbers, and their Experience**
    - **Program Manning/Issues**
    - **Contractor Facilities/Issues**
    - **Key Skills Certification Status (e.g. ISO 9000/CMM Level)**
- **PM Evaluation of Contractor Commitment to Program**
  - **High, Med, or Low**

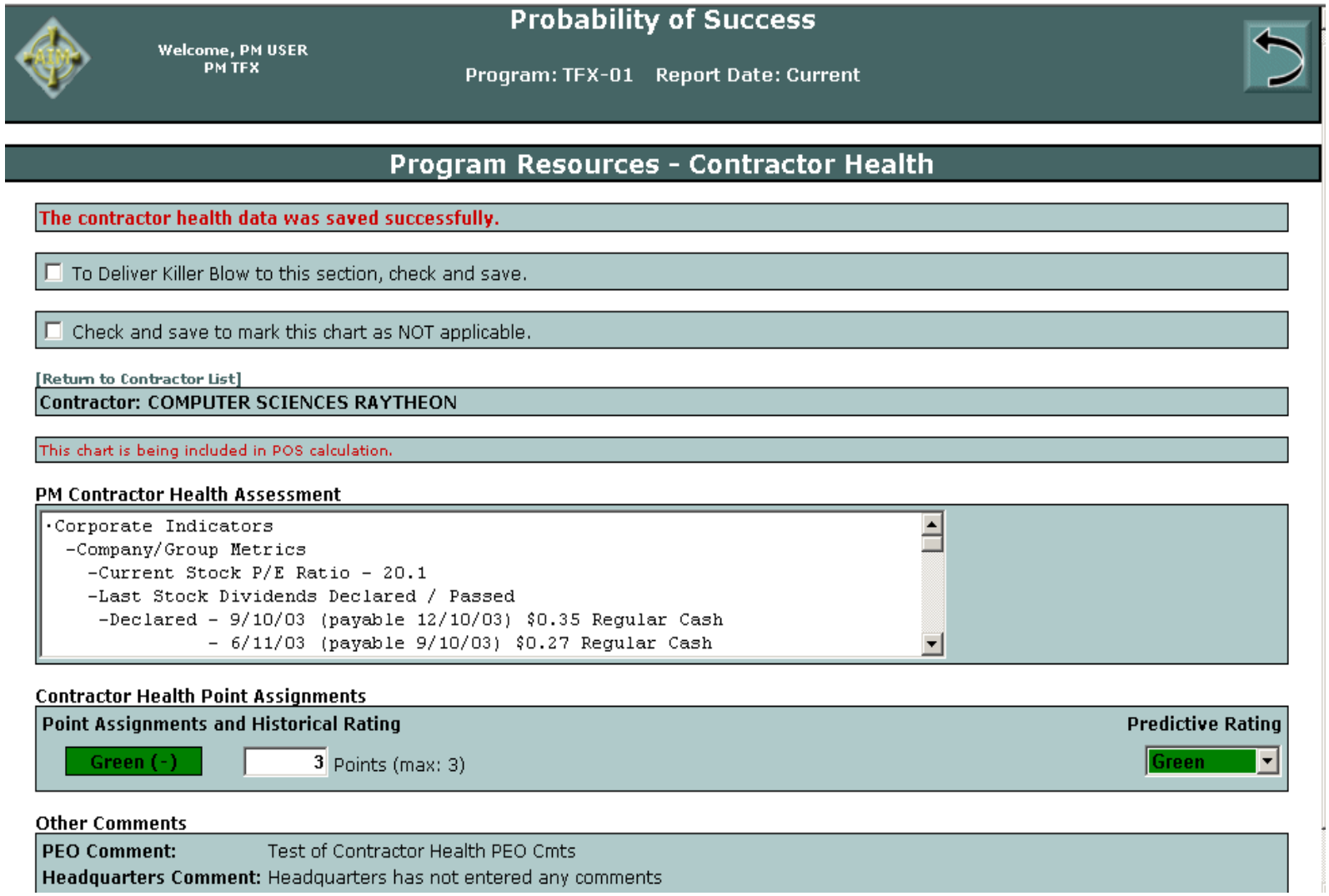
Historical

$Y_{(2)}$

Predictive

Y

PSM Contractor Health



Welcome, PM USER
PM TFX

Probability of Success

Program: TFX-01 Report Date: Current

Program Resources - Contractor Health

The contractor health data was saved successfully.

☐ To Deliver Killer Blow to this section, check and save.

☐ Check and save to mark this chart as NOT applicable.

[Return to Contractor List]

Contractor: COMPUTER SCIENCES RAYTHEON

This chart is being included in POS calculation.

PM Contractor Health Assessment

```
·Corporate Indicators
  -Company/Group Metrics
    -Current Stock P/E Ratio - 20.1
    -Last Stock Dividends Declared / Passed
     -Declared - 9/10/03 (payable 12/10/03) $0.35 Regular Cash
               - 6/11/03 (payable 9/10/03) $0.27 Regular Cash
```

Contractor Health Point Assignments

Point Assignments and Historical Rating		Predictive Rating
Green (-)	3 Points (max: 3)	Green

Other Comments

PEO Comment: Test of Contractor Health PEO Cmts

Headquarters Comment: Headquarters has not entered any comments

PEO XXX

EXECUTION – CONTRACTOR PERFORMANCE

Program Acronym

COL, PM

Date of Review: dd mmm yy

ACAT XX

Contractor:	((Contractor Name))	Contract Start Date:	MMM YY
Program:	((Program Name))	Estimated Completion Date:	MMM YY
Contract Number:	N00000-00-C-0000		

Item: (CPAR, IPAR or AF)	AF	CPAR	AF	AF	IPAR	CPAR	IPAR	AF	IPAR	IPAR	AF	IPAR	CPAR	IPAR
Period Ending: (Mmm YY)	Jan 99	Apr 99	Jul 99	Jan 00	Mar 00	Apr 00	Jun 00	Jul 00	Sep 00	Dec 00	Jan 01	Mar 01	Apr 01	Jun 01
Months Covered: (NR)	6	12	6	6	3	12	3	6	3	3	6	3	12	3
Areas to Evaluate														
a. Technical (Quality of Product)		EXC			EXC	EXC	EXC							
(1) Product Performance		VG			VG	VG	VG							
(2) Systems Engineering		SAT			SAT	SAT	SAT							
(3) Software Engineering		MARG			MARG	MARG	MARG							
(4) Logistics Support/Sustainment		UNSAT			UNSAT	UNSAT	UNSAT							
(5) Product Assurance		EXC			EXC	EXC	EXC							
(6) Other Technical Performance		VG			VG	VG	VG							
b. Schedule		SAT			SAT	SAT	SAT							
c. Cost Control		MARG			MARG	MARG	MARG							
d. Management		UNSAT			UNSAT	UNSAT	UNSAT							
(1) Management Responsiveness		EXC			EXC	EXC	EXC							
(2) SubContract Management		VG			VG	VG	VG							
(3) Program Mgmt and Other Mgmt		SAT			SAT	SAT	SAT							
e. Other Areas		MARG			MARG	MARG	MARG							
(1) Communications		UNSAT			UNSAT	UNSAT	UNSAT							
(2) Support to Government Tests		UNSAT			UNSAT	UNSAT	UNSAT							
Award Fee Percentage:	85%		70%	90%				84%						

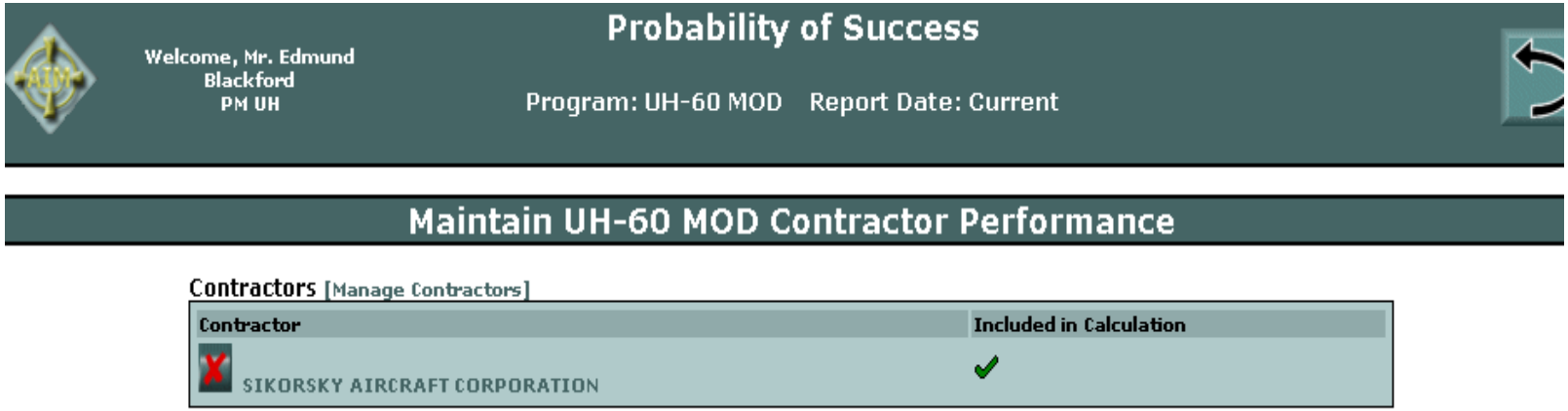
Historical

Y (2)

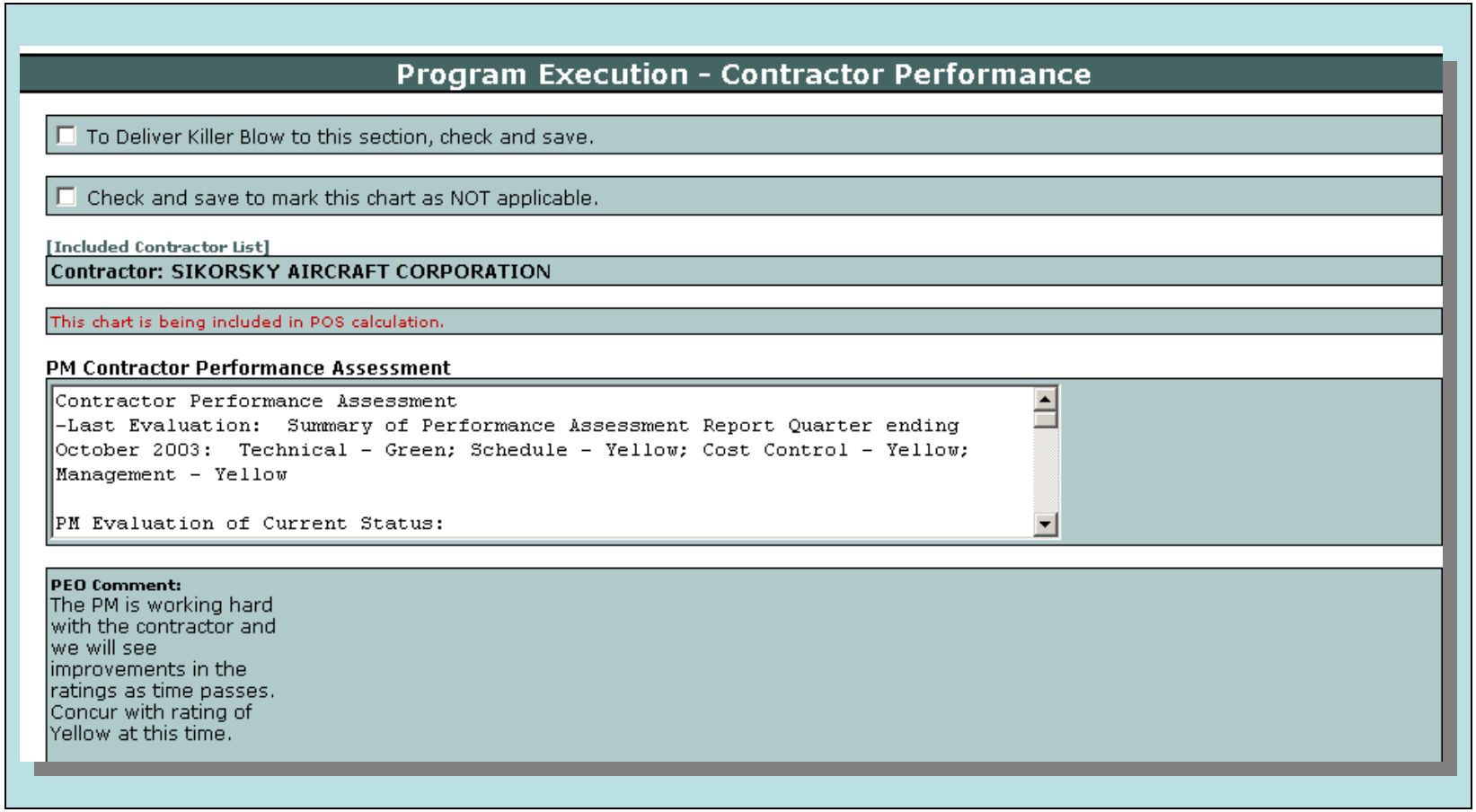
Predictive

Y

PSM Contactor Performance



PSM Contactor Performance



Program Execution - Contractor Performance

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☐ Check and save to mark this chart as NOT applicable.

[Included Contractor List]

Contractor: SIKORSKY AIRCRAFT CORPORATION

This chart is being included in POS calculation.

PM Contractor Performance Assessment

Contractor Performance Assessment
-Last Evaluation: Summary of Performance Assessment Report Quarter ending October 2003: Technical - Green; Schedule - Yellow; Cost Control - Yellow; Management - Yellow

PM Evaluation of Current Status:

PEO Comment:
The PM is working hard with the contractor and we will see improvements in the ratings as time passes. Concur with rating of Yellow at this time.

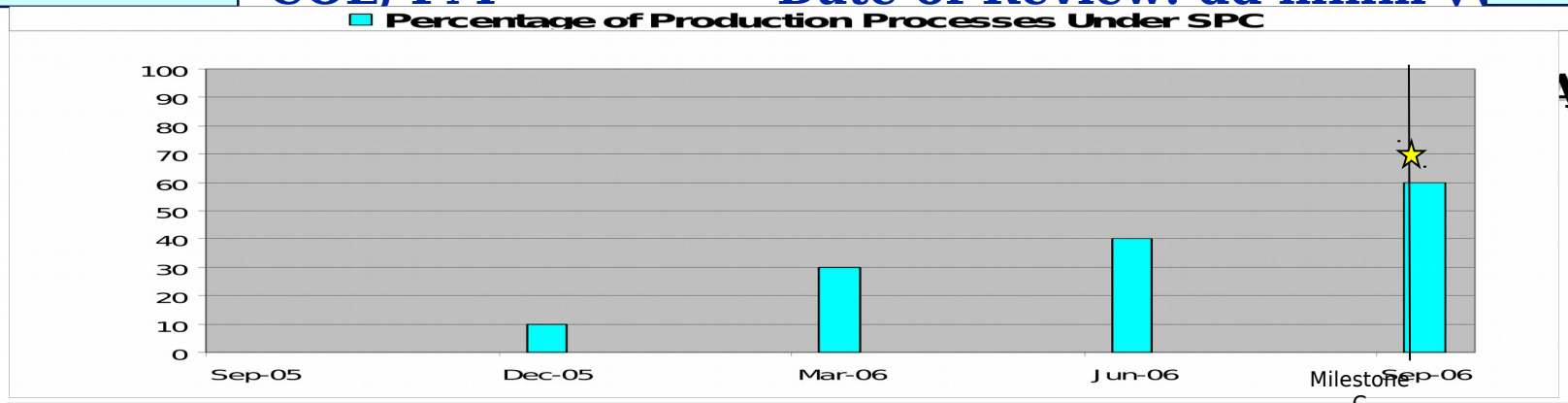
PEO XXX

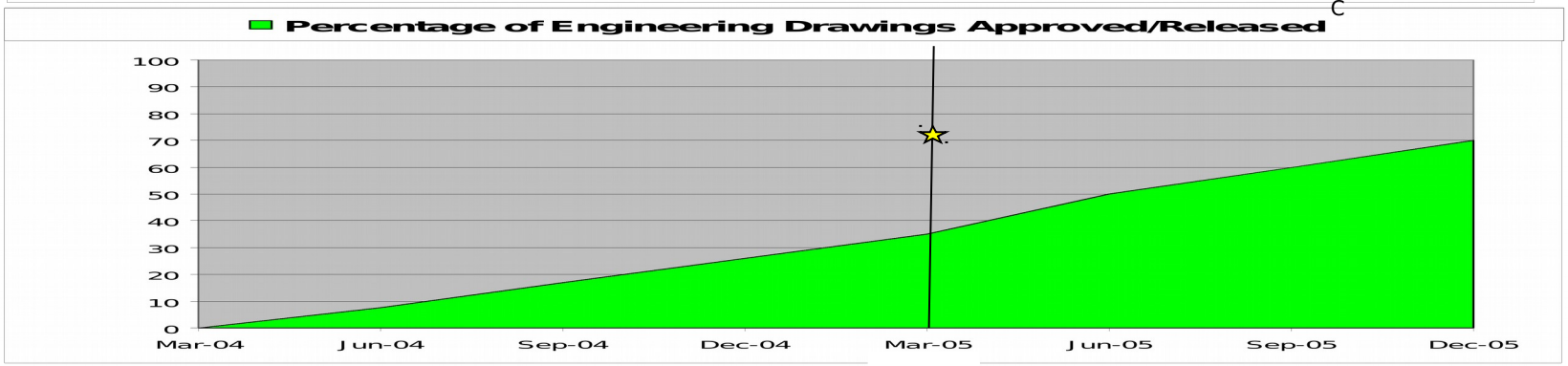
EXECUTION – TECHNICAL MATURITY

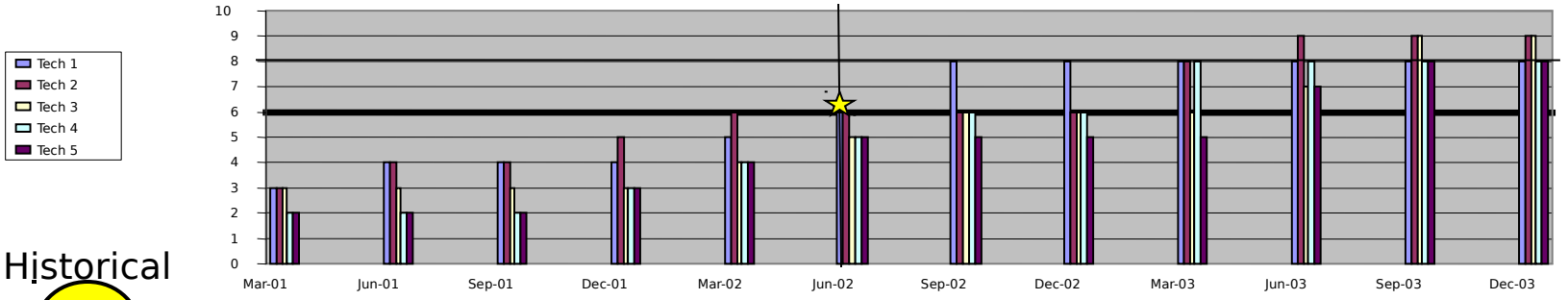
COL, PM

Date of Review: dd mmm yy

Program Acronym ACAT XX







Historical

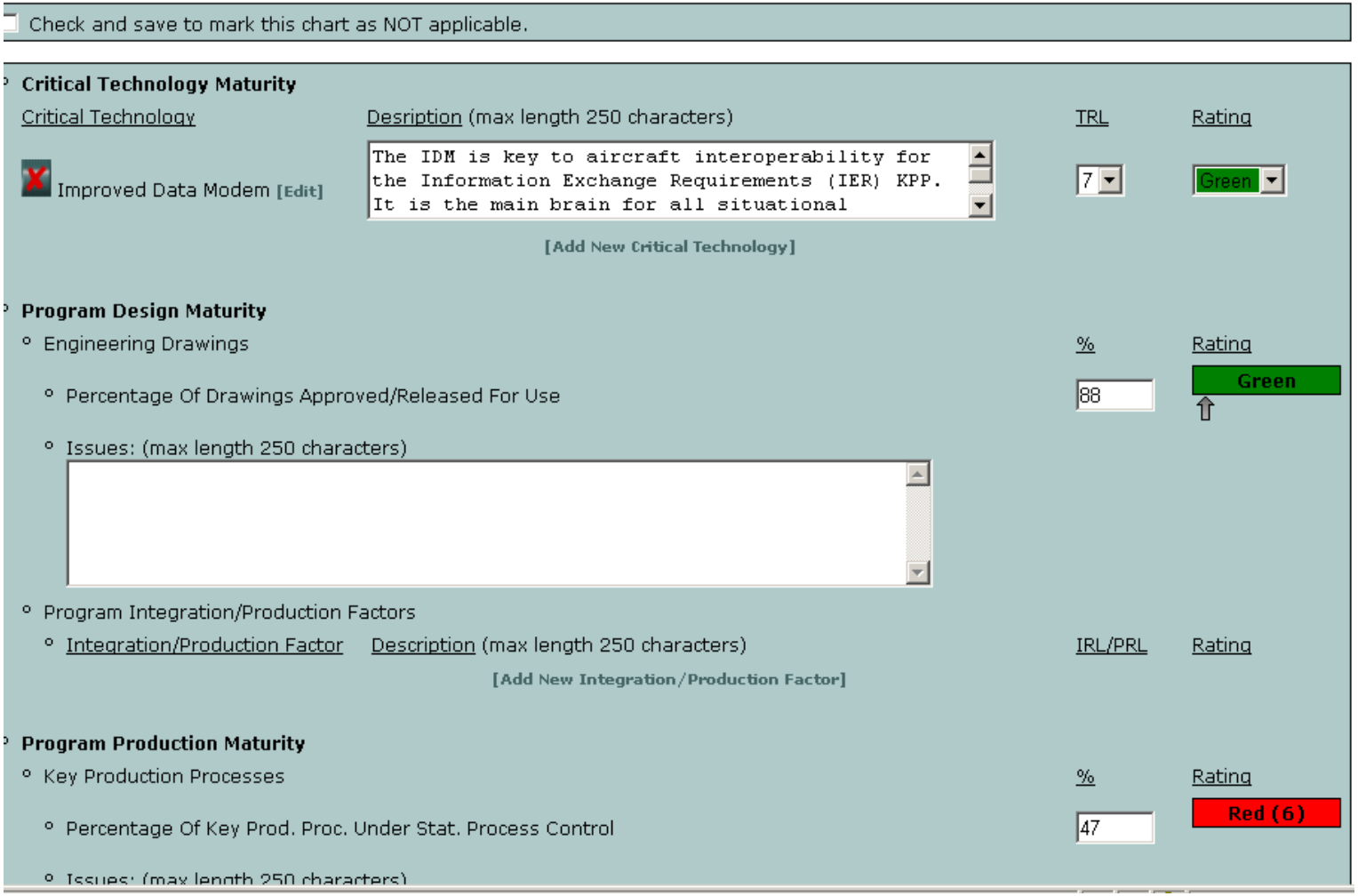
Y (3)

Program Initiatio

Predictive

Y

PSM Technical Maturity



PEO XXX

PROGRAM "FIT" IN CAPABILITY VISION

Program Acronym

COL, PM

Date of Review: dd mmm yy

ACAT XX

AREA(Examples)	STATUS	TREND
DoD Vision	G (2)	
• Transformation	G (2)	
• Interoperability	Y (3)	
• Joint	G (3)	
Army Vision	Y (4)	
• Current Force	Y (4)	
• Future Force	(N/A)	(N/A)
• Other	(N/A)	(N/A)
• Overall	Y (2)	

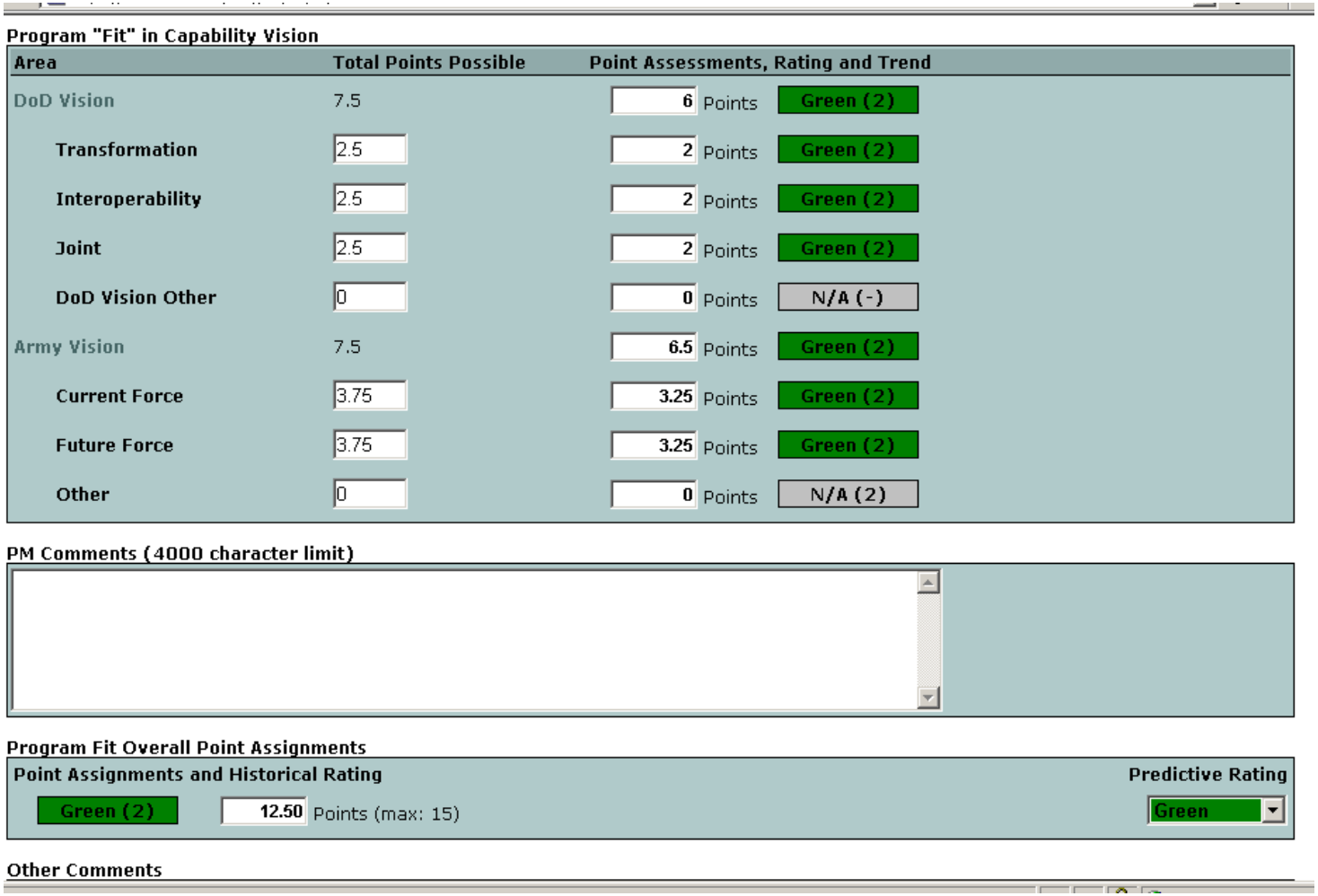
Historical

Y (2)

Predictive

Y

PSM Program Fit



Program "Fit" in Capability Vision

Area	Total Points Possible	Point Assessments, Rating and Trend
DoD Vision	7.5	6 Points — Green (2)
Transformation	2.5	2 Points — Green (2)
Interoperability	2.5	2 Points — Green (2)
Joint	2.5	2 Points — Green (2)
DoD Vision Other	0	0 Points — N/A (-)
Army Vision	7.5	6.5 Points — Green (2)
Current Force	3.75	3.25 Points — Green (2)
Future Force	3.75	3.25 Points — Green (2)
Other	0	0 Points — N/A (2)

PM Comments (4000 character limit)

Program Fit Overall Point Assignments

Point Assignments and Historical Rating		Predictive Rating
Green (2)	12.50 Points (max: 15)	Green

Other Comments

PEO XXX

PROGRAM ADVOCACY

Program Acronym

COL, PM

Date of Review: dd mmm yy

ACAT XX

AREA(Examples)	STATUS	TREND
• OSD	Y	(2)
– (Major point)		
• Joint Staff	Y	(2)
– (Major point)		
• War Fighter	Y	(4)
– (Major point)		
• Army Secretariat	G	↑
– (Major point)		
• Congressional	Y	↓
– (Major point)		
• Industry	G	(3)
– (Major Point)		
• International	G	(3)
– (Major Point)		
• Overall	Y	↓

Historical

Y↓

Predictive

Y

PSM Program Advocacy

Program Advocacy

☐ To Deliver Killer Blow to this section, check and save.

☐ Check and save to mark this chart as NOT applicable.

Program Advocacy Areas

Area	Total Points Possible	Assessed Points, Rating and Trend
✖ OSD	5	5 Points — Green (2)
	PEO Comment:	
✖ Joint Staff	4	4 Points — Green (2)
	PEO Comment:	
✖ War Fighter	4	4 Points — Green (2)
	PEO Comment:	
✖ Army Secretariat	5	5 Points — Green (2)
	PEO Comment:	
✖ Congressional	5	5 Points — Green (2)
	PEO Comment:	
✖ Industrial	2	1.7 Points — Green (2)
	PEO Comment:	
✖ International	0	0 Points — N/A (2)
	PEO Comment:	

Other Available Areas: There are no other areas available to be added [Request New Area]

Program Advocacy Overall Point Assignments

Point Assignments and Historical Rating	Predictive Rating

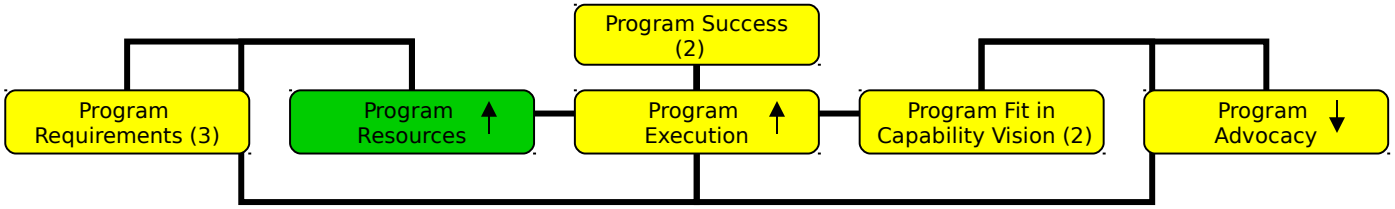
PEO XXX

FINDINGS / ACTIONS

Program Acronym ACAT XX

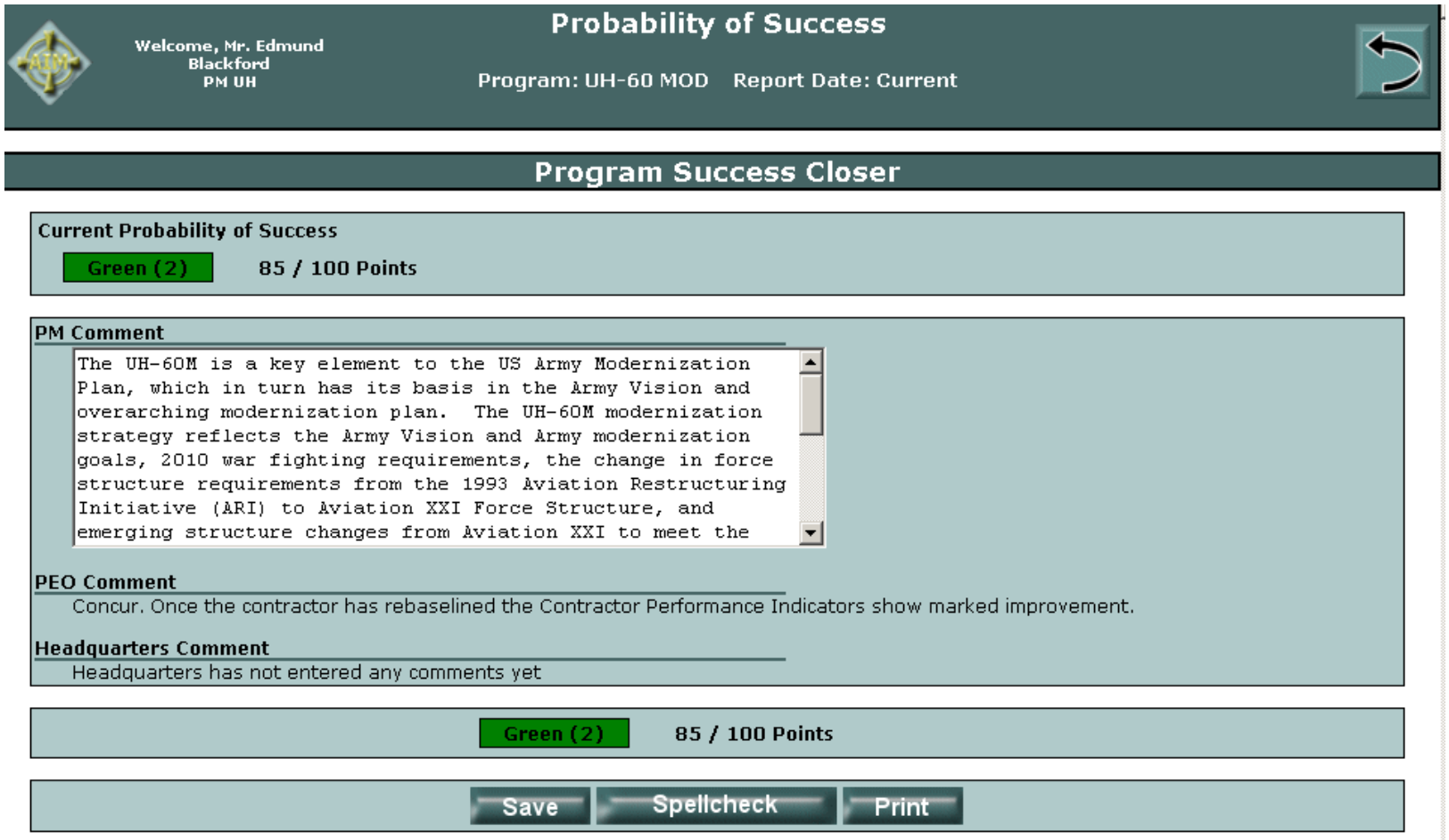
COL, PM

Date of Review: dd mmm yy



- Comments/Recap – PM's "Closer Slide"

PSM Closer


Welcome, Mr. Edmund Blackford
PM UH
Probability of Success
Program: UH-60 MOD Report Date: Current
Program Success Closer
Current Probability of Success
Green (2)
85 / 100 Points
PM Comment
The UH-60M is a key element to the US Army Modernization Plan, which in turn has its basis in the Army Vision and overarching modernization plan. The UH-60M modernization strategy reflects the Army Vision and Army modernization goals, 2010 war fighting requirements, the change in force structure requirements from the 1993 Aviation Restructuring Initiative (ARI) to Aviation XXI Force Structure, and emerging structure changes from Aviation XXI to meet the
PEO Comment
Concur. Once the contractor has rebaselined the Contractor Performance Indicators show marked improvement.
Headquarters Comment
Headquarters has not entered any comments yet
Green (2)
85 / 100 Points
Save
Spellcheck
Print

On-Line Tour of the Army’s PSM Application

Program Success Metrics
External Interest

- **Continuous Support to Army over Last 3+ Years**
  - **Developing, and Maturing PSM**
  - **Working with Army ALTESS (Automation Agent)**
  - **Training the Pilot, and Broad Army, Users in PSM**
- **Helping DFAS Adapt/Implement PSM for their Specific Acquisition Situation**
- **Working with Multiple Independent Industry and Program Users of PSM**
  - **F/A-22, LMCO**
- **National Security Space Office (NSSO) has Expressed Interest in Using PSM as their Program Management Metric for National/DoD Space Programs**

Program Success Metrics External Interest (Cont'd)

- **Some Hanscom AFB Programs have Independently Adopted PSM for Metrics/Reporting use (Dialog between ERC student and Dave Ahern, Dec 04)**
- **Three non-Army JTRS "Cluster" Program Offices have Independently Adopted PSM as a tool/Reporting format on Module status**
  - **These "Clusters" Found out About PSM from the two Army JTRS "Clusters" that were already using PSM**
  - **Resulted in a Request for Briefing on PSM from both Navy, Air Force SAE to ASA(ALT)**
- **PSM Recommended by the DAU Program Startup Workshop as a good way for Gov't and Industry to Conjointly Report Program Status**

Program Success Metrics Knowledge Sharing

- **PSM has been Posted on DAU Web Sites (EPMC/PMSC Web Sites; PM Community of Practice (CoP), and the ACC) for the Last Three Years**
- **PSM Material is Frequently Visited by CoP members and students**
- **PSM has been Briefed for Potential Wider Use to Service/OSD Acquisition Staffs Multiple Times in 2003 - 2006**
  - **People receiving the Brief have included:**
    - **Dr. Dale Uhler (Navy/SOCOM)**
    - **Blaise Durante (USAF)**
    - **Don Damstetter (Army)**
    - **Dr. Bob Buhrkuhl/Bob Nemetz (OSD Staff)**
    - **LTG Sinn (Deputy Army Comptroller)**
    - **RDML Marty Brown (Navy – DASN (AP))**
    - **DAPA / QDR Working Groups**
    - **MG Kehler (NSSO)**
  - **Discussions currently underway with Navy and Air Force on PSM**
- **PSM Meets the Intent of MID 905 (2002), which directed DoD to Achieve a Common Metrics Set (Still not accomplished)**

PSM Conclusions / “Way Ahead”

- **PSM Represents a Genuine Innovation in Program Metrics and Reporting**
  - **The First Time that All the Relevant Major Factors Affecting Program Success are Assessed Together - Providing a Comprehensive Picture of Program Viability**
- **PSM is “Selling Itself”**
  - **“Word of Mouth” User Referrals**
  - **User Discovery in Internet References**
- **Additional Work in the Offing**
  - **HQDA is Working with DAU to Plan/Conduct a “Calibration Audit” (using PSM Data Gathered to Date)**
    - **“Fine Tune” Metric Weights, Utility Functions**
  - **Expanding Tool to Provide Metrics and Weighting Factors for All Types of Programs, across the Acquisition Life Cycle**
    - **Take PSM Implementation Beyond Phase “B” Large Programs**

BACKUP

Performance Success Metrics and the PLM

- PSM is a Standard Module for EPMC, PMSC, and ERC
- DAU Partner with Army in Development / Fielding of PSM
- Multiple Consults with a Wide Variety of Gov't/Industry Activities on PSM Use and Implementation
- PSM is the Recommended Tool

- PSM Material Posted on ACC and EPMC CoP
- PSM Viewed, and Used, by Acq Community

- PSM Presented at Multiple Symposia
- CLM Videotaped and in Editing Process

Program Success Metrics – Course Use

- **DSMC-SPM Rapidly Incorporated PSM into Course Curricula (Both for its Value as a PM Overarching Process/Tool, and to Refine PSM by Exposing it to the Community that would Use it (PEOs/PMs))**
  - **Presented as a Standard Module for EPMC, PMSC for the Last Two Years**
  - **Presented in ERC for the Last Year**
  - **Presented in DAEOWs, as Requested by the DAEOW Principal**

Program Success Metrics – Continuous Learning Use

- **PSM Continuous Learning Module has been Videotaped and is in Edit / Final Revision**
- **PSM Article is Drafted and in Editing for AT&L Magazine**
- **PSM has been Presented at Multiple Symposia:**
  - **Army AIM Users Symposia: 2003 and 2004**
  - **Clinger-Cohen Symposium (FT McNair): 2004**
  - **Federal Acquisition Conference and Exposition (FACE (DC) /FACE West (Dayton, OH)): 2004**
  - **DAU Business Managers' Conference: 2004**
  - **Multiple Sessions of the Lockheed Martin Program Management Institute (Bethesda, MD): 2003, 2004**
  - **IIBT Symposium (DC): 2003**

Each of these Conference Presentations has resulted in High Interest / Multiple Requests for PSM documentation